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## SOME LIGHT ON NIGHT MIGRATION.

BY WITMER STONE.

ORNITHOLOGISTS have long been familiar with the phenomenon of night migration; that is to say, we recognize that such flights occur on every favorable night during the period of the spring and fall movements; but it is only the accomplished fact that we are actually able to see — the great host of transient birds that are in our woodland in the morning that were not there the previous day.

The nearest that we can usually come to observing the flight itself is to stand out in the open on some starlit night and listen to the faint chirps that come floating down from the great vault above. We strain our eyes in an effort to catch a glimpse of the throng that we know must be passing overhead, but all in vain, for the migrants of the night are shielded by the darkness alike from friend and foe. To a favored few the opportunity is now and then offered of getting a glimpse of the passing birds. From the top of some lighthouse we may see a few of the transients as they come for a moment within the glare of the lamp and, bewildered, dash themselves against it or pass on again on their course. Sometimes, too, upon the approach of a sudden storm part of the migrants, bewildered and temporarily lost, fly directly against a lighted building or into the illuminated streets of a town or aboard some vessel at sea. Or, again, those who have access to a large telescope may, by keeping it focused upon the full moon as it rises, see a few of the passing migrants as dark specks silhouetted against the bright disk.

The possibility of viewing the main flight as a whole might well be looked upon as an idle dream, and yet this was my privilege on the night of March 27 of the present year.

Shortly after eight o'clock in the evening there occurred in the western part of the city of Philadelphia, within half a mile of the historic Bartram's garden, a great conflagration which burned continuously until noon of the following day. The fire was confined to a lumber yard, one of the largest in the city, and between four and five acres of thoroughly seasoned hardwood lumber were burning simultaneously throughout the night. The nature of the fuel produced a tremendous illumination with very little smoke — practically none of the dense black clouds that usually accompany fires in a large city.

The sky was brilliantly illuminated for a great distance in all directions, and objects floating overhead, such as scraps of flying paper, reflected the light as if aflame. Early in the night, numbers of bats, doubtless driven out when the sheds caught fire, were to be seen, and some English Sparrows, which had probably roosted among the lumber piles, were circling about thoroughly bewildered, looking exactly like flying embers, so brilliantly did their breasts and wings reflect the glare of the flames.

Presently I realized that the birds were increasing in numbers, that the bulk of them were not English Sparrows, and that instead of the bewildered, aimless flight of these miserable foreigners they were passing steadily across the heavens from southwest to northeast. At ten o'clock the flight was at its height and I estimated that two hundred birds were in sight at any given moment as I stood facing the direction from which they came with the fire to my left. They flew in a great scattered, wide-spread host, never in clusters, each bird advancing in a somewhat zigzag manner, just as flights of warblers or finches pass across the open from one copse or thicket to another. Far off in front of me I could see them coming as mere specks, twinkling like the stars, and gradually growing larger as they approached until their wings could be distinctly seen as they passed overhead. For some distance to the right they could be seen passing steadily on, those most remote appearing and disappearing as their moving wings caught the reflection or lost it again.

Over all the illuminated area, and doubtless for a great distance beyond, they seemed about evenly distributed, those immediately over the flames glowing like coals of fire, those further away appearing silvery white.

I could only guess at the species, but to all appearances they were mainly finches, probably Tree Sparrows, Juncos and the like, while some were noticeably smaller. A few larger individuals, with a continuous rapid wing motion and heavy bodies, I took to be Woodcock or Rail. Far up in the air a Sharp-shinned Hawk circled for some time, doubtless drawn by the light, and two flocks of American Mergansers passed, going at right angles to the migratory flight and evidently passing from the river to the reservoirs in Fairmount Park where they find a safe and sheltered retreat.

I am inclined to think that the migrants were not influenced by the fire so far as the direction of their flight was concerned, as those far to the right were not coming toward the blaze but keeping steadily on their way. The birds, however, were very probably drawn down from a higher elevation by the unusual illumination.

The general trend of the flight was exactly parallel to the Delaware River. Up to eleven o'clock, when my observations ceased, it continued apparently without abatement, and I am informed that it was still in progress at midnight. Conditions were exactly favorable for migration, the mild weather of the few preceding days following the unusually severe weather that prevailed during most of the month; and the peculiarly clear night.

This wonderful sight had one regrettable feature. Occasionally a bird would fly over at a much lower altitude than the main body, and if it happened to pass over any part of the burning area it seldom escaped destruction. Up in mid air, apparently clear of flame and smoke, though evidently within range of the terrible heat, a slender thread of silvery smoke came trailing out from the unfortunate bird, like the unfurling of a skein of yarn; it would fly wildly and then, bursting into flame, fall into the roaring furnace below. I saw twenty or thirty birds perish thus during the evening.<sup>1</sup>

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<sup>1</sup> Since the above was written I have seen six partially burned birds that were picked up on the outskirts of the fire. Two were Song Sparrows and four were Juncos. About a dozen others that were examined but not preserved were stated to belong to the same species.

Some thirty thousand persons, it is estimated, viewed the fire, and a large number of them saw the birds, but probably very few appreciated the opportunity that was offered them of looking behind the dark curtain which so persistently shrouds one of nature's greatest mysteries, or realized that what they saw was, literally as well as figuratively, 'some light on night migration.'

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## NESTING OF THE GREAT BLUE HERON IN MONTANA.

BY E. S. CAMERON.

*Plates IV and V.*

SINCE living near the Yellowstone I have often wondered where the Great Blue Herons (*Ardea herodias*) nested which flew up and down the river, or stood motionless on the sandbars intercepting its brown flood. The different ferrymen, on being questioned, said the birds passed and repassed daily, but could supply no information as to their breeding haunts. Mr. A. C. Gifford of Fallon informed me that he recollected when there were twenty nests in some cottonwoods about two miles below his property, but was doubtful if herons bred there in recent years, and Mr. Dan Bowman had known of one nest on the Powder River in a cottonwood close to his ranch. These were my only records. Accordingly, on May 30 my wife and I rode to the grove indicated by Mr. Gifford and made a thorough investigation, which proved a task of some difficulty on account of the thick underbrush of wild roses, willows, and bulberry bushes, concealing regular pitfalls, through which a horse could scarcely force its way. Part of the wood was made into an island by a small branch of the river (called here a slough), and two pairs of Blue-winged Teal, evidently nesting, were seen,